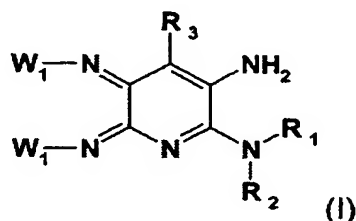


CLAIMS

1. Dye composition comprising, in a suitable medium, a compound of formula (I) below or an addition salt thereof:

5



in which

- R₃ represents:

10

- a hydrogen atom,
- a linear or branched C₁-C₁₀ hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms; R₃ not comprising a peroxide bond or diazo or nitroso radicals,
- NR'₁R'₂, R'₁ and R'₂ being as defined for R₁ and R₂,

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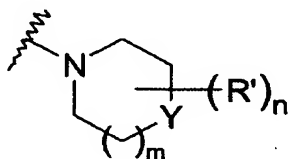
- R₁ and R₂ represent, independently of each other:

25

- a hydrogen atom,

- a linear or branched C₁-C₁₀ hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms; R₁ and R₂ not comprising a peroxide bond or diazo or nitroso radicals, and R₁ and R₂ not being directly linked to the nitrogen atom via an oxygen, sulphur or nitrogen atom or SO₂,
- an onium radical Z, or

- R₁ and R₂ form, together with the nitrogen atom to which they are attached, a ring of formula (II):



formula (II)

in which

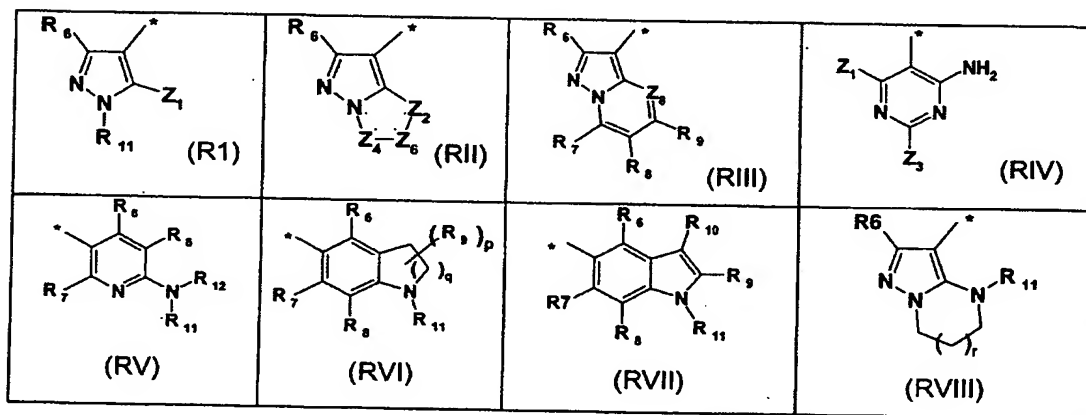
- R' represents:
 - a hydrogen atom;
 - a halogen atom;

- a C₁-C₄ alkyl radical optionally substituted with one or more radicals chosen from hydroxyl, carboxyl, C₁-C₄ alkoxy carbonyl, (C₁-C₄) alkylamido ((C₁-C₄) alkylCONH-),
5 (C₁-C₄) alkylcarbamoyl ((C₁-C₄) alkylNHCO-), (C₁-C₄) alkylsulphonyl ((C₁-C₄) alkylSO₂-), C₁-C₄ alkoxy, (C₁-C₄) alkylsulphonamido ((C₁-C₄) alkylSO₂NH-), (C₁-C₄) alkylsulphamoyl ((C₁-C₄) alkylNHSO₂-) and onium Z radicals;
10 - NR'₃R'₄;
- a carboxyl radical;
- a C₁-C₄ alkoxy carbonyl radical;
- a (C₁-C₄) alkylamido radical ((C₁-C₄) alkylCONH-);
15 - a (C₁-C₄) alkylsulphonyl radical (alkylSO₂-);
- an alkylsulphonamido radical ((C₁-C₄) alkylSO₂NH-);
- a hydroxyl radical;
- a C₁-C₄ alkoxy radical;
20 - a C₂-C₄ hydroxyalkoxy radical;
- a (C₁-C₄) alkylcarbamoyl radical ((C₁-C₄) alkylNHCO-);
- (C₁-C₄) alkylsulphamoyl ((C₁-C₄) alkyl-NH-SO₂-);
25 - a C₁-C₄ thioether radical;
- a sulphonic radical (SO₃H), which may be in salt form;

- an onium radical Z,
R'₃ and R'₄, which may be identical or different,
represent a hydrogen atom; a C₁-C₄ alkyl radical
optionally substituted with one or more radicals chosen
5 from hydroxyl, C₁-C₄ alkoxy, amino, mono- or
dialkylamino, (C₁-C₄)alkylCO-, (C₁-C₄)alkylNHCO- and
(C₁-C₄)alkylSO₂- radicals,
- n is an integer between 1 and 8,
- m is an integer between 0 and 3, preferably from 0 to
10 2,
- Y represents an oxygen atom, a radical CR', a radical
NR'₅ or a radical NR'₆R'₇ with
R'₅ which represents a hydrogen atom; a
linear or branched C₁-C₁₀ hydrocarbon-based
15 chain, which may be saturated or unsaturated,
one or more of the carbon atoms of the
carbon-based chain of which may be replaced
with an oxygen, nitrogen or sulphur atom or
with an SO₂ group, and the carbon atoms of
20 which may be, independently of each other,
substituted with one or more halogen atoms;
R'₅ not comprising a peroxide bond or diazo
or nitroso radicals, and R'₅ not being
directly linked to the nitrogen atom via an
25 oxygen, sulphur or nitrogen atom,
R'₆ and R'₇, which represent, independently, a
linear or branched C₁-C₁₀ hydrocarbon-based

chain, which may be saturated or unsaturated,
 one or more carbon atoms of the carbon-based
 chain of which may be replaced with an
 oxygen, nitrogen or sulphur atom or with an
 5 SO₂ group, and the carbon atoms of which may
 be, independently of each other, substituted
 with one or more halogen atoms; R'₆ and R'₇
 not comprising a peroxide bond or diazo or
 nitroso radicals, and R'₆ and R'₇ not being
 10 directly linked to the nitrogen atom via an
 oxygen, sulphur or nitrogen atom,

- W₁ represents an aromatic heterocyclic radical
 chosen from the following radicals



15

- Z₁ and Z₃ represent, independently of each other, a
 hydroxyl or NR₁₁R₁₂ radical,
- Z₂, Z₄ and Z₆ represent, independently of each
 20 other, a nitrogen atom or a radical CR₁₂ or NR₁₁,
 with the proviso that at least one of them

represents a radical CR_{12} and that there cannot be more than three contiguous nitrogen atoms,

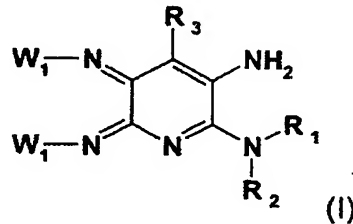
- Z_8 represents a nitrogen atom or a radical CR_{15} ,
- $R_6, R_7, R_8, R_9, R_{10}, R_{11}, R_{12}$ and R_{15} represent,

5 independently of each other:

- a hydrogen atom,
- a linear or branched C_1 - C_{10} hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and
10 which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO_2 group, and the carbon
15 atoms of which may be, independently of each other, substituted with one or more halogen atoms; the radicals R_6 to R_{12} and R_{15} not comprising a peroxide bond or diazo or nitroso radicals, and the
20 radical R_{11} not being directly linked to the nitrogen atom via an oxygen, sulphur or nitrogen atom,

- p may take the values 4 to 8,
- q may take the values 1 to 3, and
25 - r may take the values 0 to 2,
- * indicates the point of attachment of W_1 in formula (I).

2. Dye composition according to Claim 1
comprising, in a suitable medium, a compound of formula
(I) below or an addition salt thereof:



5 in which

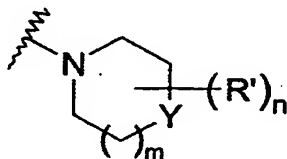
- R₃ represents:

- a hydrogen atom,
- a linear or branched C₁-C₁₀ hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, carboxyl, sulphonic or thiol radicals; R₃ not comprising a peroxide bond or diazo or nitroso radicals,
- NR'₁R'₂, R'₁ and R'₂ being as defined for R₁ and R₂

- R₁ and R₂ represent, independently of each other:

- a hydrogen atom

- 5 - a linear or branched C₁-C₁₀ hydrocarbon-
based chain, which can form one or more 4- to
8-membered carbon-based rings, and which may
be saturated or unsaturated, one or more
carbon atoms of the carbon-based chain of
which may be replaced with an oxygen,
nitrogen or sulphur atom or with an SO₂
group, and the carbon atoms of which may be,
independently of each other, substituted with
10 one or more halogen atoms or hydroxyl, amino,
carboxyl, sulphonic or thiol radicals; R₁ and
R₂ not comprising a peroxide bond or diazo or
nitroso radicals, and R₁ and R₂ not being
linked directly to the nitrogen atom via an
15 oxygen, sulphur or nitrogen atom or SO₂,
- an onium radical Z, or
- R₁ and R₂ form, together with the nitrogen atom to
which they are attached, a ring of formula (II):



20 formula (II)

in which:

- R' represents:
 - a hydrogen atom;
 - 25 - a halogen atom;

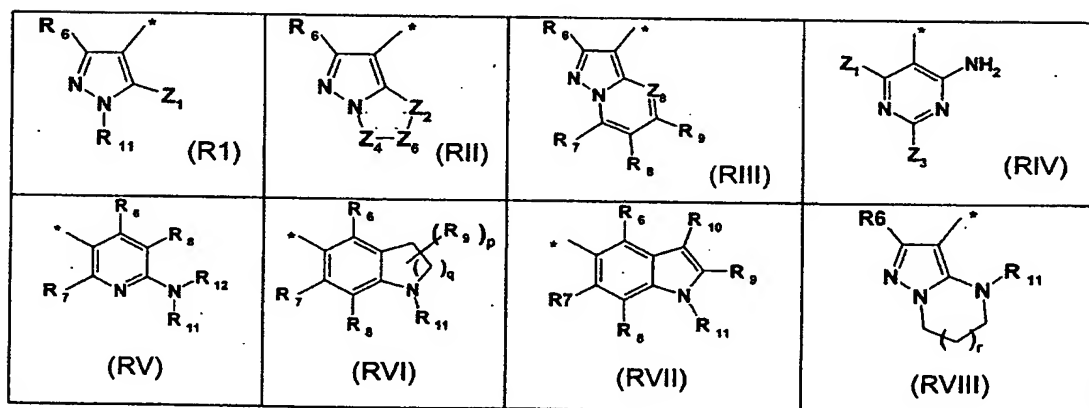
- a C₁-C₄ alkyl radical optionally substituted with one or more radicals chosen from hydroxyl, carboxyl, C₁-C₄ alkoxy carbonyl, (C₁-C₄) alkylamido ((C₁-C₄) alkylCONH-), (C₁-C₄) alkylcarbamoyl ((C₁-C₄) alkylNHCO-), (C₁-C₄) alkylsulphonyl ((C₁-C₄) alkylSO₂-), C₁-C₄ alkoxy, (C₁-C₄) alkylsulphonamido ((C₁-C₄) alkylSO₂NH-), (C₁-C₄) alkylsulphamoyl ((C₁-C₄) alkylNHSO₂-), and onium Z radicals,
 - NR'₃R'₄;
 - a carboxyl radical;
 - a C₁-C₄ alkoxy carbonyl radical;
 - a (C₁-C₄) alkylamido radical ((C₁-C₄) alkylCONH-);
 - a (C₁-C₄) alkylsulphonyl radical (alkylSO₂-);
 - an alkylsulphonamido radical ((C₁-C₄) alkylSO₂NH-);
 - a hydroxyl radical;
 - a C₁-C₄ alkoxy radical;
 - a C₂-C₄ hydroxyalkoxy radical;
 - a (C₁-C₄) alkylcarbamoyl radical ((C₁-C₄) alkylNHCO-);
 - (C₁-C₄) alkylsulphamoyl ((C₁-C₄) alkyl-NH-SO₂-);
 - a C₁-C₄ thioether radical;
 - a sulphonic radical (SO₃H) which may be in salt form;
 - an onium radical Z;

- R'₃ and R'₄, which may be identical or different,
represent a hydrogen atom; a C₁-C₄ alkyl radical
optionally substituted with one or more radicals chosen
from hydroxyl, C₁-C₄ alkoxy, amino, monoalkylamino,
5 dialkylamino, (C₁-C₄)alkylCO-, (C₁-C₄)alkylNHCO- and (C₁-
C₄)alkylSO₂- radicals,
- n is an integer between 1 and 8,
- m is an integer between 0 and 3 and preferably
between 0 and 2,
10 - Y represents an oxygen atom, a radical CR', a radical
NR'₅ or a radical NR'₆R'₇, with
R'₅ which represents a hydrogen atom; a
linear or branched C₁-C₁₀ hydrocarbon-based
chain, which may be saturated or unsaturated,
15 one or more carbon atoms of the carbon-based
chain of which may be replaced with an
oxygen, nitrogen or sulphur atom or with an
SO₂ group, and the carbon atoms of which may
be, independently of each other, substituted
20 with one or more halogen atoms or hydroxyl,
amino, carboxyl, sulphonic or thiol radicals;
R'₅ not comprising a peroxide bond or diazo
or nitroso radicals, and R'₅ not being linked
directly to the nitrogen atom via an oxygen,
25 sulphur or nitrogen atom,
R'₆ and R'₇ which independently represent a
linear or branched C₁-C₁₀ hydrocarbon-based

chain, which may be saturated or unsaturated,
 one or more carbon atoms of the carbon-based
 chain of which may be replaced with an
 oxygen, nitrogen or sulphur atom or with an
 5 SO₂ group, and the carbon atoms of which may
 be, independently of each other, substituted
 with one or more halogen atoms or hydroxyl,
 amino, carboxyl, sulphonic or thiol radicals;
 R'₆ and R'₇ not comprising a peroxide bond or
 10 diazo or nitroso radicals, and R'₆ and R'₇ not
 being linked directly to the nitrogen atom
 via an oxygen, sulphur or nitrogen atom,

- W₁ represents an aromatic heterocyclic radical
 chosen from the following radicals

15



- Z₁ and Z₃ represent, independently of each other, a
 hydroxyl radical or a radical NR₁₁R₁₂;
- 20 • Z₂, Z₄ and Z₆ represent, independently of each
 other, a nitrogen atom or a radical CR₁₂ or NR₁₁,
 with the proviso that at least one of them

represents a radical CR_{12} and that there cannot be more than three contiguous nitrogen atoms,

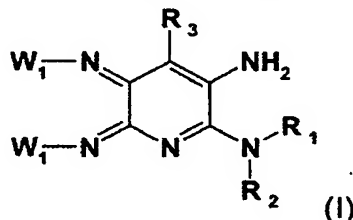
- Z_8 represents a nitrogen atom or a radical CR_{15} ;
- $R_6, R_7, R_8, R_9, R_{10}, R_{11}, R_{12}$ and R_{15} represent,
5 independently of each other:

- a hydrogen atom,
- a linear or branched C_1 - C_{10} hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and
10 which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO_2 group, and the carbon
15 atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, carboxyl, sulphonic or thiol radicals; the radicals R_6 to R_{12} and R_{15} not
20 comprising a peroxide bond or diazo or nitroso radicals and the radical R_{11} not being linked directly to the nitrogen atom via an oxygen, sulphur or nitrogen atom,

- 25 - p can take the values 4 to 8,
- q can take the values 1 to 3, and
- r can take the values 0 to 2,

- * indicates the point of attachment of W_1
in formula (I).

3. Dye composition according to Claim 1
comprising, in a suitable medium, a compound of formula
5 (I) below or an addition salt thereof:

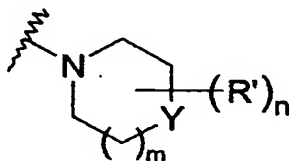


in which

• R_3 represents:

- a hydrogen atom,
- 10 - a linear or branched C_1 - C_{10} hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of
- 15 which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO_2 group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino,
- 20 C_1 - C_2 (di)alkylamino, C_1 - C_2 alkoxy, carboxyl, sulphonic or thiol radicals; R_3 not comprising a peroxide bond or diazo or nitroso radicals,

- $\text{NR}'_1\text{R}'_2$, R'_1 and R'_2 being as defined for R_1 and R_2
- R_1 and R_2 represent, independently of each other:
 - a hydrogen atom
 - a linear or branched C_1 - C_{10} hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO_2 group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, C_1 - C_2 (di)alkylamino, C_1 - C_2 alkoxy, carboxyl, sulphonic or thiol radicals; R_1 and R_2 not comprising a peroxide bond or diazo or nitroso radicals, and R_1 and R_2 not being linked directly to the nitrogen atom via an oxygen, sulphur or nitrogen atom or SO_2 ,
 - an onium radical Z, or
 - R_1 and R_2 form, together with the nitrogen atom to which they are attached, a ring of formula (II):



formula (II)

in which:

• R' represents:

- a hydrogen atom;
- a halogen atom;
- 5 - a C₁-C₄ alkyl radical optionally substituted
with one or more radicals chosen from
hydroxyl, carboxyl, C₁-C₄ alkoxy carbonyl, (C₁-
C₄)alkylamido ((C₁-C₄)alkylCONH-), (C₁-
C₄)alkylcarbamoyl ((C₁-C₄)alkylNHCO-), (C₁-
10 C₄)alkylsulphonyl ((C₁-C₄)alkylSO₂-), C₁-C₄
alkoxy, (C₁-C₄)alkylsulphonamido((C₁-
C₄)alkylSO₂NH-), (C₁-C₄)alkylsulphamoyl ((C₁-
C₄)alkylNHSO₂-), and onium Z radicals,
- NR'₃R'₄;
- 15 - a carboxyl radical;
- a C₁-C₄ alkoxy carbonyl radical;
- a (C₁-C₄)alkylamido radical ((C₁-
C₄)alkylCONH-);
- a (C₁-C₄)alkylsulphonyl radical (alkylSO₂-);
- 20 - an alkylsulphonamido radical ((C₁-
C₄)alkylSO₂NH-);
- a hydroxyl radical;
- a C₁-C₄ alkoxy radical;
- a C₂-C₄ hydroxyalkoxy radical;
- 25 - a (C₁-C₄)alkylcarbamoyl radical ((C₁-
C₄)alkylNHCO-);
- (C₁-C₄)alkylsulphamoyl ((C₁-C₄)alkyl-NH-SO₂-);

- a C₁-C₄ thioether radical;
- a sulphonic radical (SO₃H) which may be in salt form;
- an onium radical Z;

5 R'₃ and R'₄, which may be identical or different, represent a hydrogen atom; a C₁-C₄ alkyl radical optionally substituted with one or more radicals chosen from hydroxyl, C₁-C₄ alkoxy, amino, monoalkylamino, dialkylamino, (C₁-C₄)alkylCO-, (C₁-C₄)alkylNHCO- and (C₁-
10 C₄)alkylSO₂- radicals,

- n is an integer between 1 and 8,

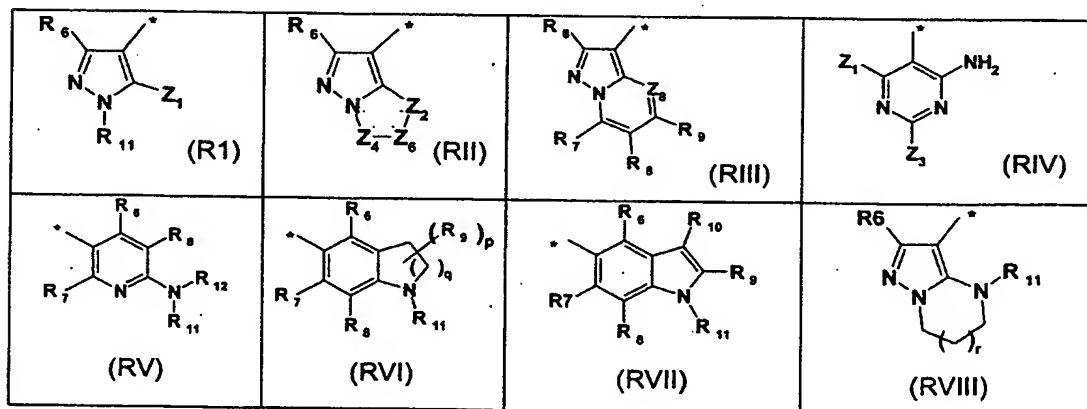
- m is an integer between 0 and 3 and preferably between 0 and 2,

- Y represents an oxygen atom, a radical CR', a radical
15 NR'₅ or a radical NR'₆R'₇, with

R'₅ which represents a hydrogen atom; a linear or branched C₁-C₁₀ hydrocarbon-based chain, which may be saturated or unsaturated, one or more carbon atoms of the carbon-based
20 chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl,
25 amino, carboxyl, sulphonic or thiol radicals; R'₅ not comprising a peroxide bond or diazo or nitroso radicals, and R'₅ not being linked

directly to the nitrogen atom via an oxygen,
 sulphur or nitrogen atom,
 R'₆ and R'₇ which independently represent a
 linear or branched C₁-C₁₀ hydrocarbon-based
 chain, which may be saturated or unsaturated,
 one or more carbon atoms of the carbon-based
 chain of which may be replaced with an
 oxygen, nitrogen or sulphur atom or with an
 SO₂ group, and the carbon atoms of which may
 be, independently of each other, substituted
 with one or more halogen atoms or hydroxyl,
 amino, carboxyl, sulphonic or thiol radicals;
 R'₆ and R'₇ not comprising a peroxide bond or
 diazo or nitroso radicals, and R'₆ and R'₇ not
 being linked directly to the nitrogen atom
 via an oxygen, sulphur or nitrogen atom,

- W₁ represents an aromatic heterocyclic radical
 chosen from the following radicals



- Z_1 and Z_3 represent, independently of each other, a hydroxyl radical or a radical $NR_{11}R_{12}$;
- Z_2 , Z_4 and Z_6 represent, independently of each other, a nitrogen atom or a radical CR_{12} or NR_{11} ,
5 with the proviso that at least one of them represents a radical CR_{12} and that there cannot be more than three contiguous nitrogen atoms,
- Z_8 represents a nitrogen atom or a radical CR_{15} ;
- R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} and R_{15} represent,
10 independently of each other:
 - a hydrogen atom,
 - a linear or branched C_1 - C_{10} hydrocarbon-based chain, which can form one or more 4- to 8-membered carbon-based rings, and
15 which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO_2 group, and the carbon
20 atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, carboxyl, sulphonic or thiol radicals; the radicals R_6 to R_{12} and R_{15} not
25 comprising a peroxide bond or diazo or nitroso radicals and the radical R_{11} not being linked directly to the nitrogen

atom via an oxygen, sulphur or nitrogen
atom,

- p can take the values 4 to 8,
- q can take the values 1 to 3, and
- 5 - r can take the values 0 to 2,
- * indicates the point of attachment of W₁
in formula (I).

4. Composition according to Claim 1, in
which R₃ is chosen from a hydrogen atom and a C₁-C₄
10 alkyl radical optionally substituted with one or more
radicals chosen from hydroxyl, C₁-C₂ alkoxy, amino and
C₁-C₂ (di)alkylamino radicals.

5. Composition according to Claim 1 or 4,
in which R₁ and R₂ are chosen, separately, from a
15 hydrogen atom and a C₁-C₆ alkyl radical optionally
substituted with a hydroxyl, alkoxy, amino or C₁-C₄
(di)alkylamino.

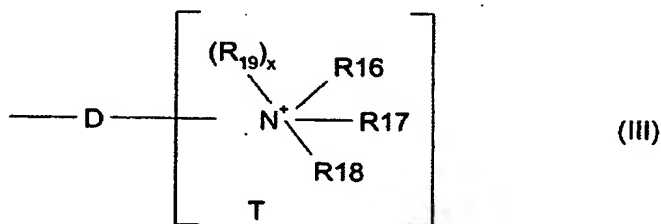
6. Composition according to Claim 1 or 4,
in which R₁ and R₂ form, with the nitrogen atom to which
20 they are attached, a 5- or 8-membered heterocycle
chosen from pyrrolidine, piperidine, homopiperidine,
piperazine, homopiperazine and optionally substituted
diazepane heterocycles.

7. Composition according to Claim 6, in
25 which R₁ and R₂ form a heterocycle chosen from
pyrrolidine, 3-hydroxypyrrolidine, 3-aminopyrrolidine,
3-acetamidopyrrolidine,

3-(methylsulphonylamino)pyrrolidine, proline,
3-hydroxyproline, piperidine, hydroxypiperidine,
homopiperidine, diazepane, N-methylhomopiperazine and
N- β -hydroxyethylhomopiperazine, and the addition salts
5 thereof.

8. Composition according to either of
Claims 6 and 7, in which R₁ and R₂ form, with the
nitrogen atom to which they are attached, an optionally
substituted pyrrolidine ring.

10 9. Composition according to any one of
Claims 1 to 8, in which the onium radical Z
corresponding to formula (III)



15

in which

- D is a covalent bond or a linear or branched
C₁-C₁₄ alkylene chain which may contain one or
more hetero atoms chosen from oxygen, sulphur
and nitrogen, SO₂ or one or more ketone
20 functions, the chain possibly being
substituted with one or more hydroxyl, C₁-C₆
alkoxy, amino or C₁-C₄ (di)alkylamino
radicals,

- R₁₆, R₁₇ and R₁₈, taken separately, represent a C₁-C₁₅ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a (C₁-C₆)alkoxy(C₁-C₆)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ amidoalkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical in which the amine is mono- or disubstituted with a C₁-C₄ alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a carbamyl(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical;
- R₁₆, R₁₇ and R₁₈ together, in pairs, form, with the nitrogen atom to which they are attached, a 4-, 5-, 6- or 7-membered carbon-based saturated ring which may contain one or more hetero atoms, the cationic ring possibly being substituted with a halogen atom, a hydroxyl radical, a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical, a C₂-C₆ polyhydroxyalkyl radical, a C₁-C₆ alkoxy radical, a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical, an amido radical, a carboxyl radical, a C₁-C₆ alkylcarbonyl radical, a thio

radical, a C₁-C₆ thioalkyl radical, a
(C₁-C₆)alkylthio radical, an amino radical or
an amino radical mono- or disubstituted with
a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or
5 (C₁-C₆)alkylsulphonyl radical;

- R₁₉ represents a C₁-C₆ alkyl radical; a C₁-C₆
monohydroxyalkyl radical; a C₂-C₆
polyhydroxyalkyl radical; an aryl radical; a
benzyl radical; a C₁-C₆ aminoalkyl radical; a
10 C₁-C₆ aminoalkyl radical in which the amine is
mono- or disubstituted with a (C₁-C₆)alkyl,
(C₁-C₆)alkylcarbonyl, amido or
(C₁-C₆)alkylsulphonyl radical; a carboxy(C₁-
C₆)alkyl radical; a carbamyl(C₁-C₆)alkyl
15 radical; a C₁-C₆ trifluoroalkyl radical; a
tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a
C₁-C₆ sulphonamidoalkyl radical; a
(C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radical; a
(C₁-C₆)alkylsulphiny(C₁-C₆)alkyl radical; a
20 (C₁-C₆)alkylsulphonyl(C₁-C₆)alkyl radical; a
(C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an
N-(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical; an
N-(C₁-C₆)alkylsulphonamido(C₁-C₆)alkyl
radical;

- x is 0 or 1,

- when $x = 0$, then linker arm D is attached to the nitrogen atom bearing the radicals R_{16} to R_{18} ,
- when $x = 1$, then two of the radicals R_{16} to R_{18} form, together with the nitrogen atom to which they are attached, a 5-, 6- or 7-membered saturated ring and the linker arm D is linked to a carbon atom of the saturated ring;

- T is a counterion.

10. Composition according to Claim 9, in which
- x is equal to 0 and R_{16} , R_{17} and R_{18} , separately, are chosen from a C_1 - C_6 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a $(C_1$ - $C_6)$ alkoxy(C_1 - C_4)alkyl radical, a C_1 - C_6 amidoalkyl radical or a tri(C_1 - C_6)alkylsilane(C_1 - C_6)alkyl radical, or
- x is equal to 0 and R_{16} and R_{17} together form an azetidine, pyrrolidine, piperidine, homopiperidine, piperazine, homopiperazine or morpholine ring, then R_{18} is chosen from a C_1 - C_6 alkyl radical; a C_1 - C_6 monohydroxyalkyl radical; a C_2 - C_6 polyhydroxyalkyl radical; a C_1 - C_6 aminoalkyl radical; an aminoalkyl radical in which the amine is mono- or disubstituted with a $(C_1$ - $C_4)$ alkyl, $(C_1$ - $C_6)$ alkylcarbonyl, amido or $(C_1$ -

C₆)alkylsulphonyl radical; a C₁-C₆ carbamylalkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radical; a (C₁-C₆)alkyl-carbonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylcarbamyl-
5 (C₁-C₆)alkyl radical.

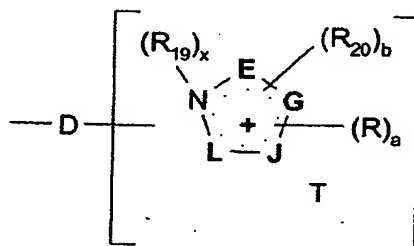
11. Composition according to Claim 9, in which x is equal to 1, R₁₉ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ aminoalkyl radical; a
10 C₁-C₆ aminoalkyl radical in which the amine is mono- or disubstituted with a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a C₁-C₆ carbamylalkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl
15 radical; a (C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical; R₁₆ and R₁₇ together form an azetidine, pyrrolidine, piperidine, homopiperidine, piperazine, homopiperazine or morpholine ring, and R₁₈ is then chosen from a C₁-C₆
20 alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical in which the amine is mono- or disubstituted with a (C₁-C₄)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a C₁-C₆
25 carbamylalkyl radical; a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical; a (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl

radical; a (C₁-C₆)alkylcarbonyl(C₁-C₆)alkyl radical; an
N-(C₁-C₆)alkylcarbamyl(C₁-C₆)alkyl radical.

12. Composition according to either of
Claims 9 and 10, in which x is equal to 0, and R₁₆, R₁₇
5 and R₁₈ are alkyl radicals.

13. Composition according to any one of
Claims 9 to 12, in which D is a covalent bond or a C₁-C₆
alkylene chain which may be substituted.

14. Composition according to any one of
10 Claims 1 to 8, in which the onium radical Z
corresponding to formula (IV)



(IV)

15 in which

- D is as defined in Claim 9 or 13,
- the ring members E, G, J and L, which may be identical or different, represent a carbon, oxygen, sulphur or nitrogen atom to form a pyrazole, imidazole, triazole, oxazole, isoxazole, thiazole or isothiazole ring,
- a is an integer between 0 and 3 inclusive;
- b is an integer between 0 and 1 inclusive;

20

- a+b is an integer between 2 and 4,
- R, which may be identical or different, represent a hydrogen or halogen atom, a hydroxyl radical, a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical, a C₂-C₆ polyhydroxyalkyl radical, a C₁-C₆ alkoxy radical, a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical, an amido radical, a carboxyl radical, a C₁-C₆ alkylcarbonyl radical, a thio radical, a C₁-C₆ thioalkyl radical, a (C₁-C₆)alkylthio radical, an amino radical, an amino radical mono- or disubstituted with a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a C₁-C₆ monohydroxyalkyl radical or a C₂-C₆ polyhydroxyalkyl radical; a benzyl radical; a phenyl radical optionally substituted with one or more radicals chosen from methyl, hydroxyl, amino and methoxy radicals; it being understood that the radicals R are borne by a carbon atom;
- R₂₀ represents a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical, a C₂-C₆ polyhydroxyalkyl radical, a tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radical, a (C₁-C₆)alkoxy(C₁-C₆)alkyl radical, a C₁-C₆ carbamylalkyl radical, a (C₁-C₆)alkylcarboxy-

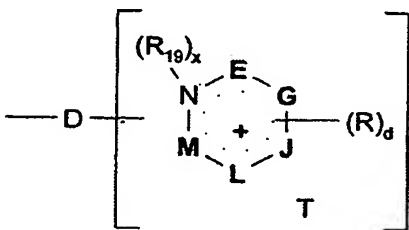
(C₁-C₆)alkyl radical or a benzyl radical; it being understood that the radical R₂₀ is borne by a nitrogen atom,

- R₁₉ is as defined in Claim 9 or 11,
- x is equal to 0 or 1,
 - when x = 0, the linker arm D is attached to the nitrogen atom,
 - when x = 1, the linker arm D is attached to one of the ring members E, G, J or L when E, G, J or L represents a carbon atom,
- T is a counterion.

15. Composition according to Claim 14, in which the ring members E, G, J and L form an imidazole, pyrazole, oxazole, thiazole or triazole ring.

16. Composition according to Claim 14 or 15, in which x is equal to 0, and D is a single bond or a C₁-C₄ alkylene chain which may be substituted.

17. Composition according to any one of Claims 1 to 8, in which the onium radical Z corresponding to formula (V)



in which

- D, R and R₁₉ are as defined in Claim 14,
- the ring members E, G, J, L and M, which may
5 be identical or different, represent a carbon
or nitrogen atom and form a ring chosen from
pyridine, pyrimidine, pyrazine, triazine and
pyridazine rings,
- d is an integer between 3 and 5 inclusive,
- 10 • x is equal to 0 or 1,
 - when x = 0, the linker arm D is
attached to the nitrogen atom,
 - when x = 1, the linker arm D is
attached to one of the ring members
15 E, G, J, L or M, when E, G, J, L or
M represents a carbon atom,
- T represents a counterion.

18. Composition according to Claim 17, in
which the ring members E, G, J, L and M form, with the
20 nitrogen of the ring, a ring chosen from pyridine,
pyrimidine, pyridazine and pyrazine rings.

19. Compositions according to any one of
Claims 14 to 18, in which x is equal to 0 and R is
chosen from a hydroxyl radical, a C₁-C₆ alkyl radical, a
25 C₁-C₆ monohydroxyalkyl radical, a C₂-C₆ polyhydroxyalkyl
radical, a C₁-C₆ alkoxy radical, a tri(C₁-C₆)-
alkylsilane(C₁-C₆)alkyl radical, an amido radical, a

C₁-C₆ alkylcarbonyl radical, an amino radical, an amino radical mono- or disubstituted with a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a C₁-C₆ monohydroxyalkyl radical or a C₂-C₆ polyhydroxyalkyl radical; it being understood that the radicals R are borne by a carbon atom.

20. Composition according to any one of Claims 14 to 18, in which x is equal to 1, R₁₉ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ aminoalkyl radical, a C₁-C₆ aminoalkyl radical in which the amine is mono- or disubstituted with a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical; a C₁-C₆ carbamylalkyl radical; a tri(C₁-C₆)-alkylsilane(C₁-C₆)alkyl radical; a (C₁-C₆)-alkylcarbonyl(C₁-C₆)alkyl radical; an N-(C₁-C₆)-alkylcarbamyl(C₁-C₆)alkyl radical; R is chosen from a hydroxyl radical, a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical, a C₂-C₆ polyhydroxyalkyl radical, a C₁-C₆ alkoxy radical, a tri(C₁-C₆)-alkylsilane(C₁-C₆)alkyl radical, an amido radical, a C₁-C₆ alkylcarbonyl radical, an amino radical or an amino radical mono- or disubstituted with a (C₁-C₆)alkyl, (C₁-C₆)alkylcarbonyl, amido or (C₁-C₆)alkylsulphonyl radical.

21. Composition according to any one of Claims 14 to 20, in which R and R₁₉ are C₁-C₄ alkyl radicals which may be substituted.

22. Composition according to any one of
5 Claims 1 to 21, in which W₁ is chosen from
5-aminopyrazole, 5-hydroxypyrazole,
pyrazolo[1,5-b]pyridine, pyrazolo[1,5-a]pyrimidine,
pyrazolo[3,2-c]triazole, pyrazolo[1,5-b]triazole,
aminopyrimidine, triaminopyrimidine,
10 hydroxyaminopyrimidine, 2-aminopyridine, indoline and
indole radicals.

23. Composition according to Claim 22, in which W₁ is chosen from the 5-aminopyrazole and 5-hydroxypyrazole radicals of formula (R1).

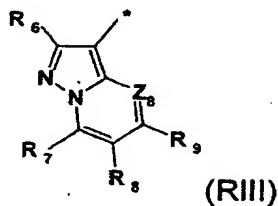
15 24. Composition according to Claim 23, in which W₁ is chosen from 5-aminopyrazole and 5-hydroxypyrazole radicals in which R₆ and R₁₁, which may be identical or different, are chosen from a hydrogen atom; a linear or branched C₁-C₁₀ hydrocarbon-based
20 chain, which can form one or more 4- to 8-membered carbon-based rings, and which may be saturated or unsaturated, one or more of the carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group,
25 and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, carboxyl, sulphonic or thiol

radicals; the radicals R_6 to R_{12} not comprising a peroxide bond or diazo or nitroso radicals and the radical R_{11} not being linked directly to the nitrogen atom via an oxygen, sulphur or nitrogen atom.

5 25. Composition according to Claim 24, in which R_6 and R_{11} are chosen, independently, from a hydrogen atom and a linear or branched C_1 - C_4 hydrocarbon-based chain, which can form one or more 5- or 6-membered carbon-based rings, and which may be
10 saturated or unsaturated, the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl or amino radicals.

26. Composition according to Claim 1 or 22, in which W_1 represents

15



R_6 , R_7 , R_8 , R_9 and Z_8 being as defined above.

27. Composition according to Claim 26, in
20 which W_1 is a pyrazolo[1,5-b]pyridine radical in which R_6 , R_7 , R_8 , R_9 and R_{15} , which may be identical or different, are chosen from

- a hydrogen atom,
- a linear or branched C_1 - C_{10} hydrocarbon-based
25 chain, which may form one or more 4- to 8-

membered carbon-based rings, and which may be saturated or unsaturated, one or more carbon atoms of the carbon-based chain of which may be replaced with an oxygen, nitrogen or sulphur atom or with an SO₂ group, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, carboxyl, sulphonic or thiol radicals; the radicals not comprising a peroxide bond or diazo or nitroso radicals,

- hydroxyl or amino radicals, the amine possibly being substituted with a linear or branched C₁-C₄ hydrocarbon-based chain, which can form one or more 5- or 6-membered carbon-based rings, and which may be saturated or unsaturated, the carbon atoms may be, independently of each other, substituted with one or more halogen atoms or hydroxyl or amino radicals.

28. Composition according to Claim 27, in which W₁ is a pyrazolo[1,5-b]pyridine radical in which R₆, R₇, R₈, R₉ and R₁₅, which may be identical or different, are chosen from:

- a hydrogen atom,
- a linear or branched C₁-C₁₀ hydrocarbon-based chain, which can form one or more 4- to 8-

5 membered carbon-based rings, and which may be
saturated or unsaturated, one or more carbon
atoms of the carbon-based chain of which may
be replaced with an oxygen, nitrogen or
sulphur atom or with an SO₂ group, and the
carbon atoms of which may be, independently
of each other, substituted with one or more
halogen atoms or hydroxyl, amino, carboxyl,
sulphonic or thiol radicals; the radicals not
comprising a peroxide bond or diazo or
nitroso radicals,
• hydroxyl or amino radicals, the amine
possibly being substituted with a linear or
branched C₁-C₄ hydrocarbon-based chain, which
can form one or more 6-membered carbon-based
rings, and which may be saturated or
unsaturated, the carbon atoms may be,
independently of each other, substituted with
one or more halogen atoms or hydroxyl or
amino radicals.

20 29. Composition according to Claim 27, in
which W₁ is a pyrazolo[1,5-b]pyridine radical in which
R₆, R₇, R₈, R₉ and R₁₅, which may be identical or
different, are chosen from:

- 25 • a hydrogen atom,
• a linear or branched C₁-C₁₀ hydrocarbon-based
chain, which can form one or more 4- to 8-

membered carbon-based rings, and which may be saturated or unsaturated, and the carbon atoms of which may be, independently of each other, substituted with one or more halogen atoms or hydroxyl, amino, monosubstituted or disubstituted amino, C₁-C₄ alkoxy, C₁-C₄ thioether, carboxyl, sulphonic or thiol radicals;

- hydroxyl or amino radicals, the amine possibly being substituted with a linear or branched C₁-C₄ hydrocarbon-based chain, which can form one or more 5- or 6-membered carbon-based rings, and which may be saturated or unsaturated, the carbon atoms may be, independently of each other, substituted with one or more halogen atoms or hydroxyl or amino radicals.

30. Composition according to Claim 27, in which the radicals R₆, R₇, R₈, R₉ and R₁₅ are chosen from a hydrogen atom, a linear or branched C₁-C₄ hydrocarbon-based chain which may be saturated or unsaturated, the carbon atoms may be, independently of each other, substituted with one or more halogen atoms or hydroxyl or amino radicals.

31. Composition according to Claim 26, in which W₁ is a pyrazolo[1,5-a]pyrimidine radical in which R₇ and R₉ are chosen from a hydrogen atom, a

linear or branched C₁-C₆ alkyl radical; a C₁-C₆
monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl
radical; a C₁-C₆ aminoalkyl radical or a C₁-C₆
aminoalkyl radical in which the amine is mono- or
5 disubstituted with a (C₁-C₆)alkyl or
(C₁-C₆)alkylcarbonyl radical, a hydroxyl or amino
radical, the amino possibly being substituted with a
linear or branched C₁-C₁₀ hydrocarbon-based chain, which
can form one or more 5- or 6-membered carbon-based
10 rings which may be saturated or unsaturated, the carbon
atoms may be, independently of each other, substituted
with one or more halogen atoms or hydroxyl or amino
radicals; R₆ and R₈ are chosen from a hydrogen atom, a
linear or branched C₁-C₆ alkyl radical; a C₁-C₆
15 monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl
radical; a C₁-C₆ aminoalkyl radical or a C₁-C₆
aminoalkyl radical in which the amine is mono- or
disubstituted with a (C₁-C₆)alkyl or
(C₁-C₆)alkylcarbonyl radical.

20 32. Composition according to Claim 31, in
which R₇ and R₉ are chosen from a hydrogen atom; a
linear or branched C₁-C₄ alkyl radical; a C₁-C₄
monohydroxyalkyl radical; a C₂-C₄ polyhydroxyalkyl
radical; a C₁-C₄ aminoalkyl radical or a C₁-C₄
25 aminoalkyl radical in which the amine is mono- or
disubstituted with a (C₁-C₂)alkyl radical, a hydroxyl or
amino radical, the amino possibly being substituted

with a linear or branched C₁-C₄ hydrocarbon-based chain,
the carbon atoms may be, independently of each other,
substituted with one or more hydroxyl or amino
radicals, and R₆ and R₈ are chosen from a hydrogen atom,
5 a linear or branched C₁-C₄ alkyl radical; a C₁-C₄
monohydroxyalkyl radical; a C₂-C₄ polyhydroxyalkyl
radical; a C₁-C₄ aminoalkyl radical or a C₁-C₄
aminoalkyl radical in which the amine is mono- or
disubstituted with a (C₁-C₂)alkyl radical; a C₁-C₂
10 alkoxy radical.

33. Composition according to Claim 32, in
which R₆, R₇, R₈ and R₉ are chosen from a hydrogen atom;
a C₁-C₄ alkyl radical; an amino radical; a C₁-C₄ mono-
or dialkylamino radical; a C₁-C₄ hydroxyalkyl radical or
15 a C₁-C₂ alkoxy radical.

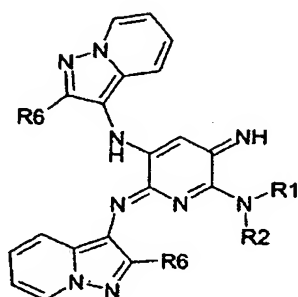
34. Composition according to any one of
Claims 1 to 33, in which the compound of formula (I) is
a cationic compound substituted with at least one onium
radical Z.

20 35. Composition according to Claim 34, in
which at least one of the radicals R₁ and R₂ is an onium
radical Z.

36. Composition according to Claim 35, in
which R₁ and R₂ form a ring of formula (II) in which R'
25 is an onium radical Z.

37. Composition according to Claim 36, in
which Y is NR'₆R'₇.

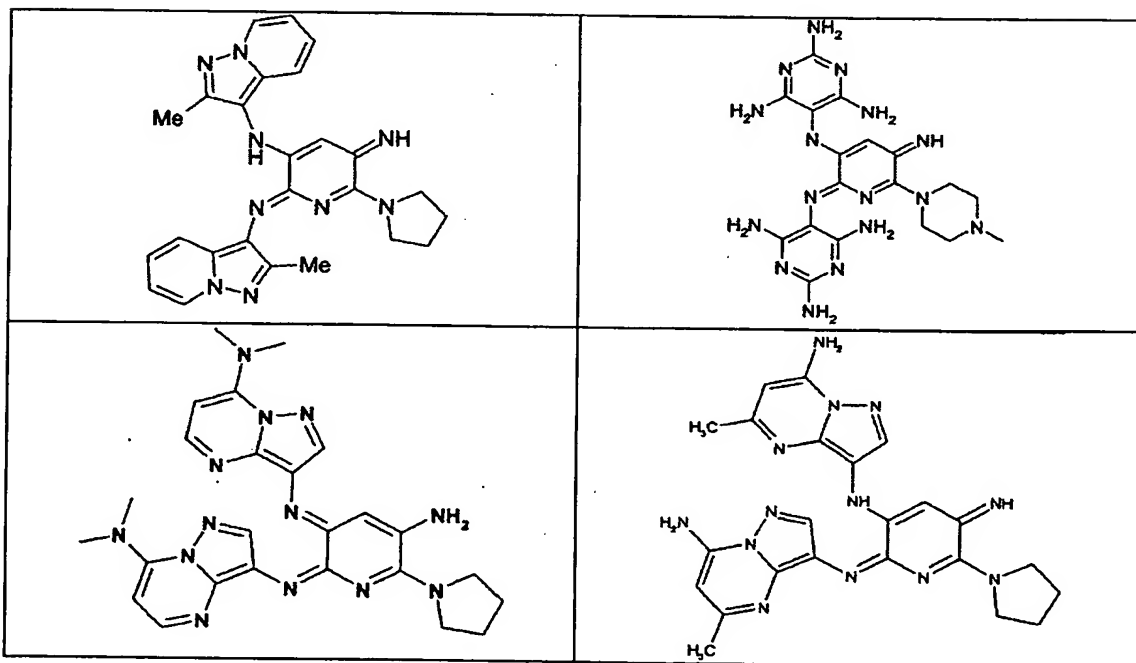
38. Composition according to any one of the preceding claims, in which the compound of formula (I) represents

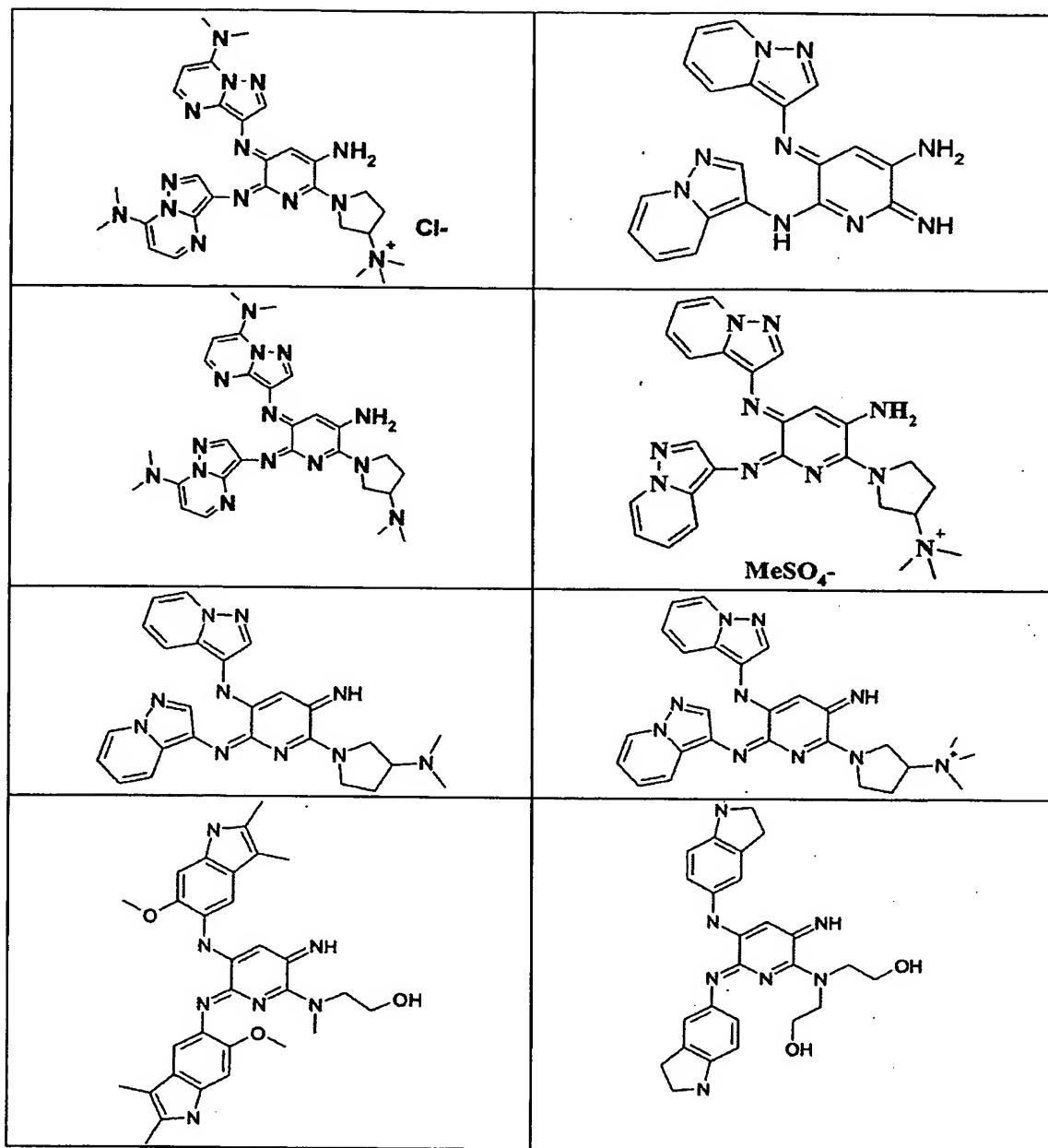


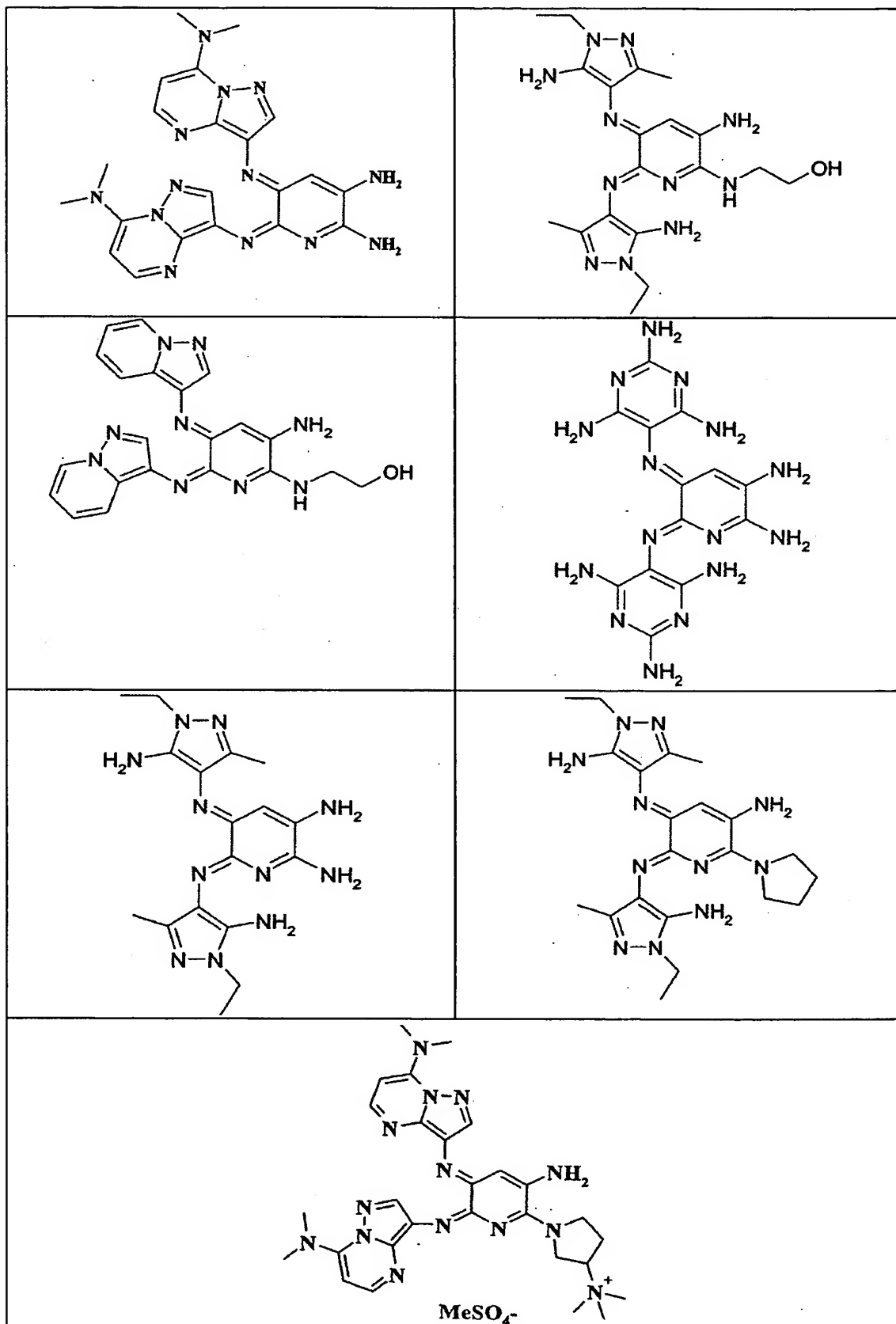
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in which R₁, R₂ and R₆ are as defined above.

39. Composition according to any one of Claims 1 to 38, in which the compound of formula (I) is
 10 chosen from







40. Composition according to any one of Claims 1 to 39, in which the amount of dye of formula (I) is between 0.01% and 10% by weight.

41. Composition according to any one of
5 Claims 1 to 40, also comprising an oxidation base chosen from para-phenylenediamines, bis(phenyl)alkylenediamines, para-aminophenols, ortho-aminophenols and heterocyclic bases, and the addition salts thereof with an acid.

10 42. Composition according to Claim 41, in which the oxidation base(s) is (are) present in an amount of between 0.001% and 10%.

43. Composition according to any one of Claims 1 to 42, comprising at least one coupler chosen
15 from meta-phenylenediamines, meta-aminophenols, meta-diphenols, naphthalene-based couplers and heterocyclic couplers, and the addition salts thereof with an acid.

44. Composition according to any one of Claims 1 to 43, also comprising an oxidizing agent.

20 45. Direct dye of formula (I) as defined in any one of Claims 1 to 44.

46. Process for dyeing keratin fibres, which comprises the application of the composition according to any one of Claims 1 to 44 for a period that is
25 sufficient to obtain the desired coloration.